Indigenous and Northern Affairs Canada
Affaires autochtones et du Nord Canada

PO BOX 1500
YELLOWKNIFE, NT X1A 2R3

20 April 2018

Mavis Cli-Michaud
Mackenzie Valley Land and Water Board
7th Floor, 4910-50th Avenue
PO Box 2130
Yellowknife, NT X1A 2P6

Re: MV2017L8-0006: REPAIR OF EXISTING UBC BRIDGE ON BAKER CREEK– NOTIFICATION OF EXTENTION OF WORK INTO OPEN WATER SEASON

Dear Ms. Cli-Michaud:

Indigenous and Northern Affairs Canada (INAC) is submitting this letter to notify the Board that the construction schedule for UBC Bridge repair work has been updated. No modifications to the planned repair activities is required.

The UBC Bridge Construction Plan submitted November 15, 2017, stated all work was anticipated to be completed during frozen conditions. However, delays in mobilization, broken equipment due to cold temperatures, and operational delay, such as waiting on confirmatory survey results, has led to a one-month schedule extension to repair work (i.e., until the end of May 2018). The GMRP anticipates at least partial melting of the ice over Baker Creek and low flow runoff from surface snow melt will occur prior to completion.

Updated mitigations and monitoring efforts to reflect open water work are described below, which address the activities anticipated to occur once spring melt has commenced. A progress update of activities completed and those remaining is provided in Table 1. An updated project schedule is provided in Table 2.

Activities Completed

Nine activities required to complete the bridge repair were identified and sequenced in the Construction Plan submitted November 15, 2017; five activities are now complete, with four activities anticipated to be ongoing during spring melt. The order or activities has been adjusted by the contractor as possible to address delays; activity 7 was able to be completed before 5 and 6. Table 1 provides an update of the tasks completed and those that remain as of April 20, 2018.

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Table 1: Progress on UBC Bridge Repair Work and Summary of Remaining Tasks

Activity	Status as of April 20, 2018	Work required during open water season
1. Removal and stockpiling of granular backfill around existing abutments for reuse	Complete	No
2. Deconstruction of the existing bridge.	Complete	No
3. Salvage the timber decking, timber rail, and existing structural steel (superstructure) for reuse.	Complete	No
4. Removal and disposal of the timber backwall, abutment seats, and existing piles.	Complete	No
5. Drill and install rock socketed concrete filled steel pipe piles.	All steel piles installed; concrete to be poured in coming two weeks to complete activity	No
6. Supply and install precast concrete abutment seats and concrete backwalls.	Not yet complete	Likely, depending on timing of melt
7. Supply and install new bearing stiffeners and bracing.	Complete	No
8. Reinstall salvaged superstructure on new bridge substructure.	Not yet complete	Likely, depending on timing of melt
9. Backfill and grade approaches	Not yet complete	Likely, depending on timing of melt

Mitigations and Monitoring

In accordance with Water Licence MV2017L8-0006 Part C, Condition 1, Part E, Conditions 1 and 2, and commitments made in the Construction Plan submitted November 15, 2017, a silt curtain has been in place at the site of repairs, on each side of the streambed above the ordinary high water mark since the commencement of repair work. Tarps and plastic sheeting has also been used throughout winter work to contain soils moved during pile installation and prevent debris from falling onto the ice during frozen conditions. Any residual debris that has fallen onto the ice will be cleaned up prior to spring melt.

The following additional mitigations will be in place prior to doing any work during open water:

- The existing silt curtain will be reinforced using an appropriate method (e.g., sandbags, rock) to ensure that any spring melt or Baker Creek flows will not cause erosion of the soils behind the curtain and result in sedimentation in Baker Creek.
- Once spring melt commences, daily visual inspections of the silt curtain will be completed until all repair work is completed (Part E, condition 3). Records of the time the check was completed and clear documentation of what was observed will be kept.

- Should obvious movement of sediment into the creek be noted during a visual inspection, extra TSS/turbidity sampling will be triggered immediately, and the issue corrected as quickly as possible. Monitoring will continue until the issue is addressed and water quality concentrations reflect upstream concentrations. Notification of breach of the silt curtain will be provided to the Inspector and the Board in accordance with Part F of Water Licence MV2017L8-0006.

When the superstructure is reinstalled over Baker Creek, additional mitigations will be implemented:

- Inspection of girder sections will be completed to ensure they are free and clean of debris. Connection points on the girders are well outside the creeks path; therefore, installation of bolts, shoe plates, etc. will occur safely away from the creek's ordinary highwater mark, behind the silt curtain.
- Deck panels will be scraped clean of loose ice/sand/gravel prior to installation to prevent any debris falling into Baker Creek. Deck panels will be fastened to girders using lag bolts drilled to the underside of the girder flanges.
- Workers will install the lag bolts from a man basket suspended from the crane. Workers will disconnect rigging utilizing the man basket or fall arrest systems and will not be at risk of falling into the water. The man basket floor provides containment for dropped bolts/tools.

Wastes will continue to be managed in accordance with the approved Waste Management Plan. The area will be checked for nesting birds starting in the beginning of May; however, the risk of encountering nesting birds is deemed very low given the level of activity occurring.

Table 2: Updated Project Schedule

Action	Original Schedule	Updated Schedule
Water Licence Issuance	September 28, 2017	September 28, 2017
Submission of Final Detailed Construction Plan	November 15, 2017	November 15, 2017
Tender Notice Issuance	November 24, 2017	November 23, 2017
Tender Award Date	December 22, 2017	January 10, 2018
Notification of Start of Work	January 19, 2018	February 1, 2018
Mobilization of Contractor to Site	January 29, 2018	March 3, 2018
Commencement of Repairs	February 2018	March 6, 2018
Completion of Repairs	April 2018	May 31, 2018
Demobilization	April 2018	June 8, 2018

Should you have any questions or require any clarification regarding the information in this letter, please contact the undersigned by phone at (867) 669-2775 or by email at Katherine.Harris2@canada.ca.

Sincerely,

Katherine Harris
Regulatory Manager
Indigenous and Northern Affairs Canada
Giant Mine Remediation Project

CC: Devin Penney, Resource Management Officer, INAC, Yellowknife, NT
Don Pittman, Senior Biologist, DFO, Yellowknife NT